

JACK S. WAYLAND
Director



STATE OF WASHINGTON
DEPARTMENT OF WILDLIFE

Region 4 (206) 775-1311
16018 Mill Creek Boulevard
Mill Creek, WA 98012

December 11, 1987

Mr. Kenneth F. Plumb, Secretary
Federal Energy Regulatory Commission
325 North Capitol Street

TERMS AND CONDITIONS

Re: Canyon Lake Creek Project (Canyon Creek, a tributary of the M.F. Nooksack): FERC Exemption 9231-000, in Whatcom County, Washington.

Dear Mr. Plumb:

This letter lists terms and conditions developed by Washington Department of Wildlife (WDW) necessary to protect fish and wildlife associated with the Canyon Lake Project, FERC 9231-000.

The proposed project will consist of:

1. An intake structure located at approximately River Mile 3.5.
2. A 30" diameter pipeline/penstock 12,500 feet long.
3. A powerhouse located approximately at RM 1.9 discharging into Canyon Lake Creek in the vicinity of an impassable falls.
4. The project will use 29 cfs at 1480 feet of head to develop 2.2 MW.

Canyon Lake Creek is utilized by resident trout throughout its length, as well as steelhead, searun cutthroat trout and Dolly Varden below the anadromous barrier falls and the Middle Fork Nooksack. The following terms and conditions are necessary to protect game fish and wildlife during the project construction and operation.

1. The Department of Wildlife (WDW) understands that a FERC exemption for hydroelectric projects is granted in perpetuity and the WDW prescribed terms and conditions regulate the project are also perpetual. Conditions affecting game fish and wildlife and/or the hydroelectric project may change over time.

the life of the project.

2. The diversion structure will be designed to comply with FERC standards for an exempted project diversion design. The diversion will also be designed to be continuously self flushing, allowing materials to move downstream during natural streamflow events.
3. The intake and pipeline will be designed to prevent atmospheric gases from entering the water supply. As an added precautionary measure, some means of allowing dissolved gases to reach equilibrium before reaching the stream below the powerhouse will be provided.
4. The powerhouse will be equipped with an automatic turbine bypass system which prevents water level fluctuation downstream of the powerhouse during unanticipated load rejection or scheduled shutdowns. In addition, a ramping rate acceptable to WDW will be established through on-site investigation after the project is completed, but prior to coming on line.
5. Two options are being considered for the tailrace. One with a direct release to Canyon Lake Creek would require a tailrace rack with one (1) inch bar spacing at the confluence of the tailrace and Canyon Lake Creek. The second option would be a tailrace cascading down over a rock bluff and entering the plunge pool at the barrier falls. This option would not require tailrace racking. Final design must be reviewed and approved by the agencies.
6. An automatic shutoff valve will be installed at the point of diversion to prevent extensive erosion in the event of a pipeline failure.
7. The applicant must comply with the provisions, timing restrictions and construction techniques set forth the Hydraulics Approval.
8. Minimum instream flows have been negotiated between the agencies and the developer and were a result of an IFIM and the modification of the point of diversion. The instream flow for the bypass reach of the Canyon Lake Creek project is 6 cfs.

A flow measuring device designed to provide instantaneous flow readings will be installed downstream of the diversion.
9. Resident trout are present above the point of diversion, and to prevent their entrainment, the diversion will be screened. Screening criteria for resident trout protection is 1/4-inch mesh screen and an approach velocity of 0.5 feet/second.

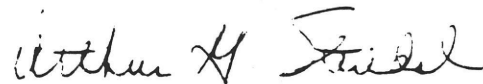
10. Discharge velocity dissipation structure must be installed in conjunction with the flow continuation valve (if not an integral feature of the valve). This provision will lessen the possibility of erosion or destruction of aquatic life and habitat by reducing tailrace velocity during load rejection or maintenance.
11. The erosion potential of the Canyon Lake Creek project has been assessed and an initial Erosion and Sediment Control Plan (ESCP) has been developed by Bruce Stoker in his report, "Canyon Creek Watershed Study", November 1986. Erosion control measures identified in the plan must be followed. The measures required may not be limited to those identified in this report, as final design may require further modifications. The measures described in Exhibit A will be considered a term and condition of this exemption. In addition, the exemptee will develop a map in consultation with the agencies and tribes which defines the area protected from timber harvest in the area between the railroad grade and the powerhouse, sufficient to protect the stability of the slope.
12. Authorized personnel from WDW will have the right to inspect at any time the project facilities and operations to insure that project related activities are not adversely affecting game fish and wildlife.
13. The applicant may be required to periodically provide to WDW a written record of stream flow, power generation, diversion screen maintenance, dissolved gas levels, and other pertinent data.
14. Pipeline, wherever possible, must be buried or provide suitable means of wildlife passage. Design must be approved by WDW.
15. All areas cleared during construction, including permanent road margins, powerhouse vicinities, powerline, and pipeline must be revegetated as quickly as possible to minimize stream siltation and replace wildlife habitat.
16. Herbicides will not be applied to the transmission corridor, access roads, pipeline/penstock, or near the diversion or powerhouse.
17. The project sponsor will provide up to one thousand (\$1,000) dollars annually. These funds will be used specifically to offset the cost of monitoring construction and operation on the Canyon Lake Project. Billing will be submitted to the project sponsor quarterly only for work performed.

The Washington Department of Wildlife appreciates the

opportunity to provide terms and conditions for the Canyon
Lake Creek Project, PERC 9231-000.

Sincerely,

WASHINGTON DEPARTMENT OF WILDLIFE



Arthur G. Stendal
Area Habitat Biologist

cc. Fenton, WDW, Olympia
Engman, WDW, Reg. 4
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